# Homework: Software Quality Assurance Introduction

## Think Testing: Gas Station

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| **Problem #1** | The woman put in the wrong fuel. |
| **Problem #2** | There is a problem with the car. |
| **Problem #3** | The keys are missing. |
| **Problem #4** | Wrong car started. |
| **Problem #5** | The car is stolen. |

## Think Testing: Tooth Brushing

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| **Step #1** | Get some toothpaste. |
| **Step #2** | You unscrew the cap. |
| **Step #3** | You leave the cap on the table |
| **Step #4** | You put very little toothpaste on the toothbrush |
| **Step #5** | You put the toothbrush in your mouth. |
| **Step #6** | You start brushing your teeth. |

## Think Testing: 5 Kg Bag

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| **Test #1** | We put 2 kg. In the bag and we test whether it not holds up. |
| **Test #2** | We put 5 kg. In the bag and we test whether it not holds up. |
| **Test #3** | We put 5 kg. + 100 gr. In the bag and we test whether it holds up. |

## Login Form UX Problems

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| **Problem #1** | The site name is different from the site address. |
| **Problem #2** | The form address should not be "add to basket". |
| **Problem #3** | The buttons are not aligned. |
| **Problem #4** | The password field is above the username field. |
| **Problem #5** | There should not be “Log out” button. |

## Weather Forecast Bug

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| **Mistake** | The developer made the following mistake: They don't convert temperature to Celsius |
| **Bug (location)** | The bug in the code should be in the module / function, responsible for: degree conversion |
| **Failure (symptoms)** | When the buggy code goes in production, it fails as follows: it shows wrong temperature data |

## Age Checking Machine

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| The mistake is not including age equal to 18.  The situation where we have wrong logic in the code is called "Bug".  It will result in Failure at age of 18 |

## Testing an Electric Water Kettle

### Test Scenario #1:

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| Test case #1 | Boiling 1liter of Water **🡪success** |
| Description | Pour 1 liter of water, start the kettle, and wait until it gets hot. |
| Steps | 1. Fill 1 liter of cold water in the kettle and close the boiler lid. 2. Plug the power base in the electrical network. 3. Plug the boiler into the power base. 4. Switch on the kettle. 5. Wait until the water gets hot and the kettle automatically switches off (2-3 minutes). |
| Expected results | The boiling process should complete in less than 4 minutes.  The water should get hot.  The kettle should automatically power off when the water gets too hot.  The kettle lid should stay closed. |

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| Test case #2 | **Boil an empty kettle 🡪 fail** |
| Description | Try to boil an empty kettle (no water inside) and make sure the boiling stops (automatically switches off) almost immediately after starting. |
| Steps | 1. Empty the kettle and close the boiler lid. 2. Plug the power base in the electrical network. 3. Plug the boiler into the power base. 4. Switch on the kettle. 5. Wait until kettle automatically switches off ( 0.5-2 seconds). |
| Expected results | There should be no boiling.  The kettle should turn off automatically in (0.5-2 seconds) because there is no water. |

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| Test case #3 | **Boil Fill 0,9 liter of cold water 🡪 fail** |
| Description | Try to boil 0,9 liter and make sure the boiling stops (automatically switches off) almost immediately after starting. |
| Steps | 1. Fill 0,9 liter of cold water in the kettle and close the boiler lid. 2. Plug the power base in the electrical network. 3. Plug the boiler into the power base. 4. Switch on the kettle. 5. Wait until kettle automatically switches off ( 0.5-2 seconds). |
| Expected results | There should be no boiling.  The kettle should turn off automatically in (0.5-2 seconds) because there is no water. |

### Test Scenario #2: Use the lid.

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| Test case #1 | **Open the lid🡪 success** |
| Description | Press the open lid button. The lid open |
| Steps | 1. Press the open lid button 2. Watch the lid open |
| Expected results | The lid should open |

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| Test case #2 | **Close the lid 🡪 success** |
| Description | Press the lid with the hand. The lid should close. |
| Steps | 1. Press the lid with the hand. 2. Confirm the lid close |
| Expected results | The lid should close |

## Testing a Coffee Machine

## Test Scenario #1: Brew a coffee

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| Test case #1 | **Brew a small coffee 🡪 success** |
| Description | Start the coffee machine, put water, put ground coffee in the outlet, and brew a cup of coffee. |
| Steps | 1. Power on the machine. 2. Put ground coffee blend in the coffee outlet. 3. Fill the water container to its max level. 4. Wait until the "hot water" indicator lights up. 5. Put an empty coffee cup under the coffee outlet. 6. Press the "brew small coffee" button. 7. Wait until the brew process finishes. |
| Expected results | The brew process should complete in less than 50 seconds.  The coffee cup should hold a hot small coffee (60 ml).  The machine should stay powered on.  The "hot water" indicator light could be on or off (both states are correct).  The machine should have enough water in its water container (it should not beep). |

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| Test case #2 | **Brew a coffee with no water 🡪 fail** |
| Description | Start the coffee machine, empty the water container, try to brew a cup of coffee, expect the coffee machine to start beeping to indicate that the water is not enough. |
| Steps | 1. Power on the machine. 2. Put ground coffee blend in the coffee outlet. 3. Put an empty coffee cup under the coffee outlet. 4. Press the "brew small coffee" button. 5. Coffee machine start beeping to indicate that the water is not enough (on intervals of 10 seconds) |
| Expected results | The coffee machine not Brew a coffee.  The coffee machine to start beeping to indicate that the water is not enough. |

### Test Scenario #2: Machine On / Off

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| Test case #1 | **Switch off 🡪 check light indicator** |
| Description | We see if the light when the machine turns off |
| Steps | 1. The machine is turned off (due to lack of water, power failure, etc.) 2. The light goes out. 3. We press the coffee button for a short or long time 4. We see that the machine does not make coffee. |
| Expected results | The machine does not make coffee and the light does not light up |

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| Test case #2 | **Switch on with no water 🡪 beeping** |
| Description | Start the coffee machine, empty the water container, try to brew a cup of coffee, expect the coffee machine to start beeping to indicate that the water is not enough. |
| Steps | 1. Power on the machine. 2. Coffee machine start beeping to indicate that the water is not enough (on intervals of 10 seconds) |
| Expected results | Coffee machine start beeping to indicate that the water is not enough (on intervals of 10 seconds) |

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